specification as indicated above. The Substitute Sequence Listing in no way introduces new matter into the specification.

Please transfer the sequence disk from parent file Serial No. 08/545,196, filed on October 19, 1995, to this file. The disk copy and paper copy of the sequence listing are identical except for word processing formatting.

Claims 31-52 are added by the present Amendment. New claims 31-39 find support as indicated in the Preliminary Amendment of October 19, 1995 on parent application Serial No. 08/595,196. These claims are presented in order to bring out an important feature of the Applicants' invention -- that the invention is based on the Applicants' discovery that patients with spinal muscular atrophy exhibit alterations in the telomeric version of a gene identified by the Applicants and termed "T-BCD541". Support for claims 40-52 is found in the specification, as discussed below.

Independent claim 40 brings out the feature that the method of the invention focuses on analyzing exon 7 and/or exon 8 of the T-BCD541 gene from a patient sample and determining whether one or both of these exons is altered in comparison to the corresponding exons present in normal human tissue. This aspect of the invention can be found described, at least, at page 6, paragraph 5 of the specification, where it is stated that the T-BCD541 gene is responsible for motor neuron diseases of the SMA type, since its alteration either by partial or total deletion, by mutation or other modification, is sufficient to lead to a pathological state.

Claims 41-42 further specify, as described above and elsewhere in the application, that the alteration is a deletion of either of exons 7 or 8.

Claims 43-45 are directed to specific methods for analyzing the T-BCD541 gene, which include amplifying the gene, and particularly exons 7 or 8 thereof, and further (claim 45) subjecting the amplification products to enzymatic digestion. Support for these methods can be found, at least, at page 17, second paragraph, as well as at page 28, first through third full paragraphs. Claims 46-49 are directed to specific features, including the use of specific primers, as set forth, at least, at page 11, last paragraph, through page 15, and the use of specific forms of analysis and tissue sources, as described, for example at page 16, last paragraph, through page 17, in Example 10, (pp. 44-45) and page 26, paragraphs 3-4, and page 36, first paragraph.

Claims 50-53 are directed to a related aspect of the present invention which involves the use of genetic analysis of T-BCD541 to confirm a clinical diagnosis of arthrogryposis multiplex congenita (AMC). This feature embodies a further discovery of the present invention -- that AMC of neurogenic origin is related to SMA. Support for this aspect of the invention is provided, at least example, at page 38, second and third paragraphs and generally, at pages 36-38.

Favorable action on the merits is respectfully requested.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully

requested to contact Maryanne Liotta (Registration No. 40,069) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: _____ #32868
C. Joseph Faraci
Reg. No. 32,350
P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

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